

An aerial photograph of the Oroville Dam and its reservoir. The dam is a large concrete structure spanning a wide river. The reservoir is a large body of blue water. The surrounding landscape is a mix of dry, brownish-yellow hills and green, forested areas. A winding road is visible on the left side of the image. The text is overlaid on the upper half of the image.

Oroville FERC Relicensing (Project No. 2100)

Environmental Work Group

January 28, 2004

SP-F3.1 Task 1A Interim Report



Assessment of Fish Passage Impediments Above Lake Oroville's High Water Mark

SP-F3.1 Task 1A Interim Report



Study Objectives

- ◆ Identify and characterize potential fish passage barriers for inland salmonids, anadromous salmonids, and sturgeon upstream of Lake Oroville



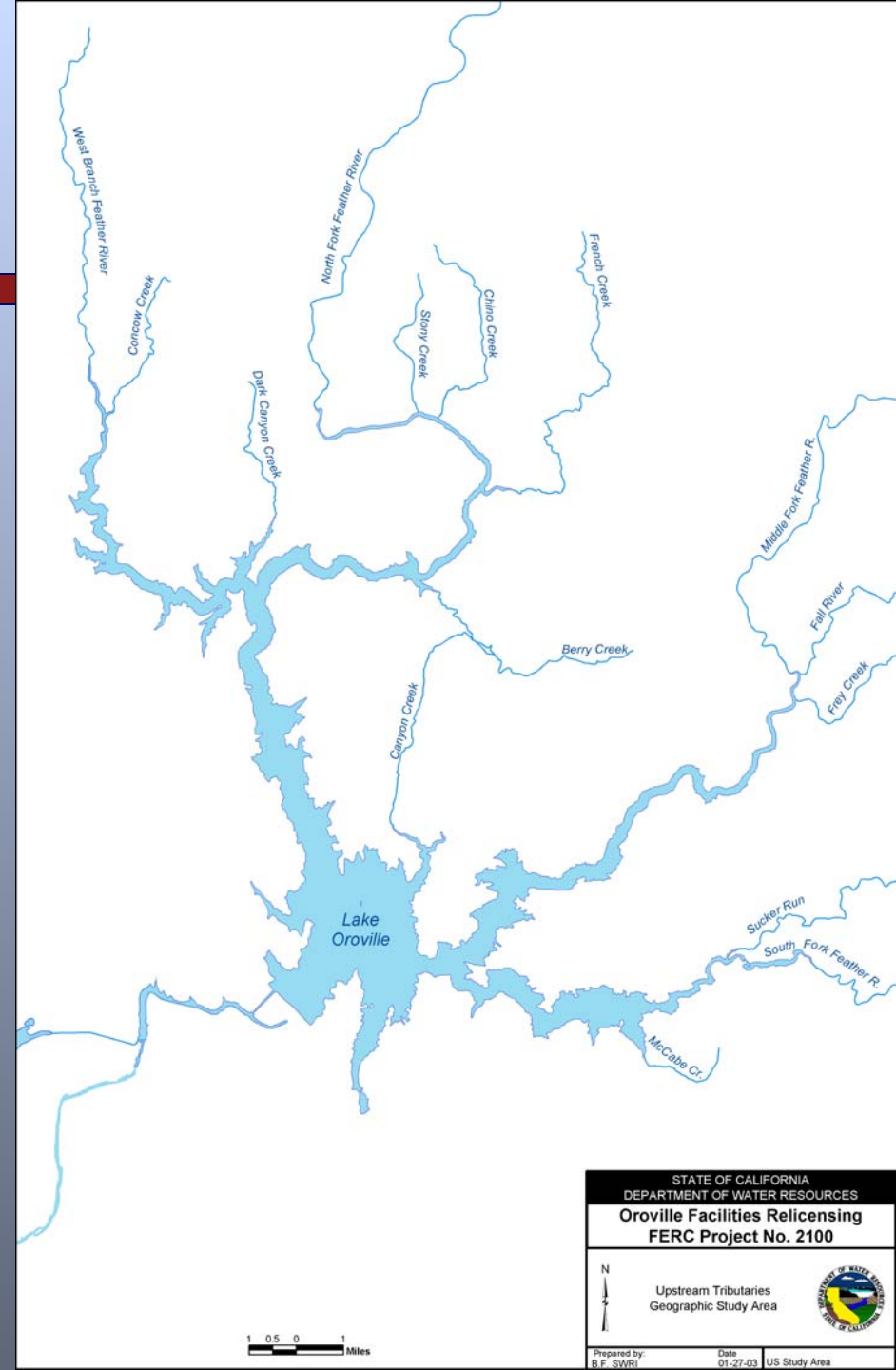
Report Overview

- ◆ **Geographic Scope**
- ◆ **Historical Fish Passage**
- ◆ **Fish Barrier Assessment Methodology**
- ◆ **Upstream Tributary Passage Barrier Data Collection**
- ◆ **Passage Barrier Assessment Results**
- ◆ **Next Steps for Final Report**

Introduction

Geographic Scope

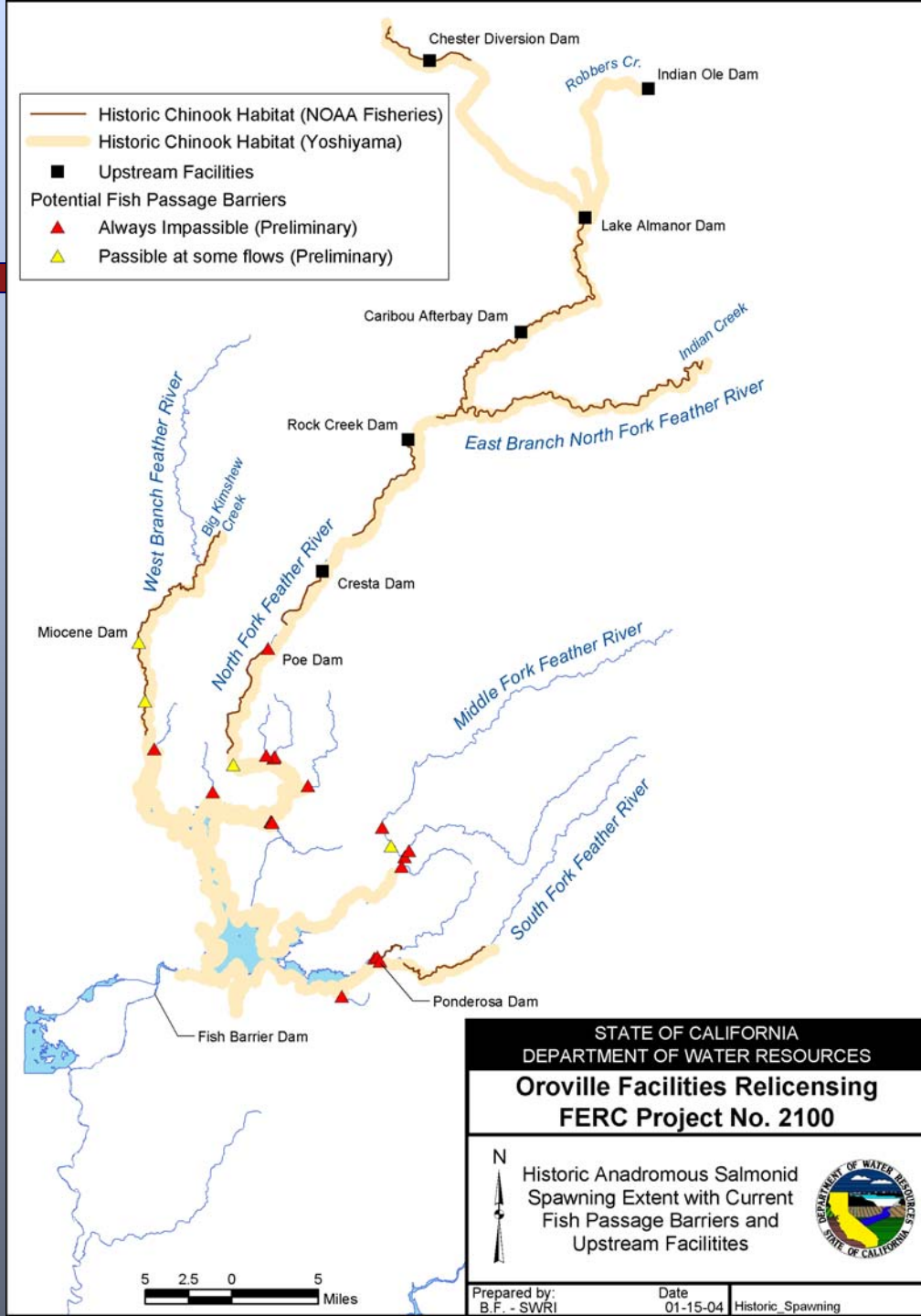
- ◆ Lake Oroville and its upstream tributaries from the high water mark to the first upstream fish migration barrier



Introduction

Historic Passage

- ◆ Historic spawning extent
 - ◆ Pre-European settlement
 - ◆ Pre-Oroville Dam



Methodology

Study Design

- ◆ **Adapted Powers and Orsborn 1985 “Analysis of Barriers to Upstream Migration: An Investigation of the Physical and Biological Conditions Affecting Fish Passage Success at Culverts and Waterfalls”**
- ◆ **Method provides quantitative metrics on fish barriers that are objective and repeatable**
- ◆ **Results are adaptable to evaluate potential proposed PM&E changes to passage conditions**

Methodology

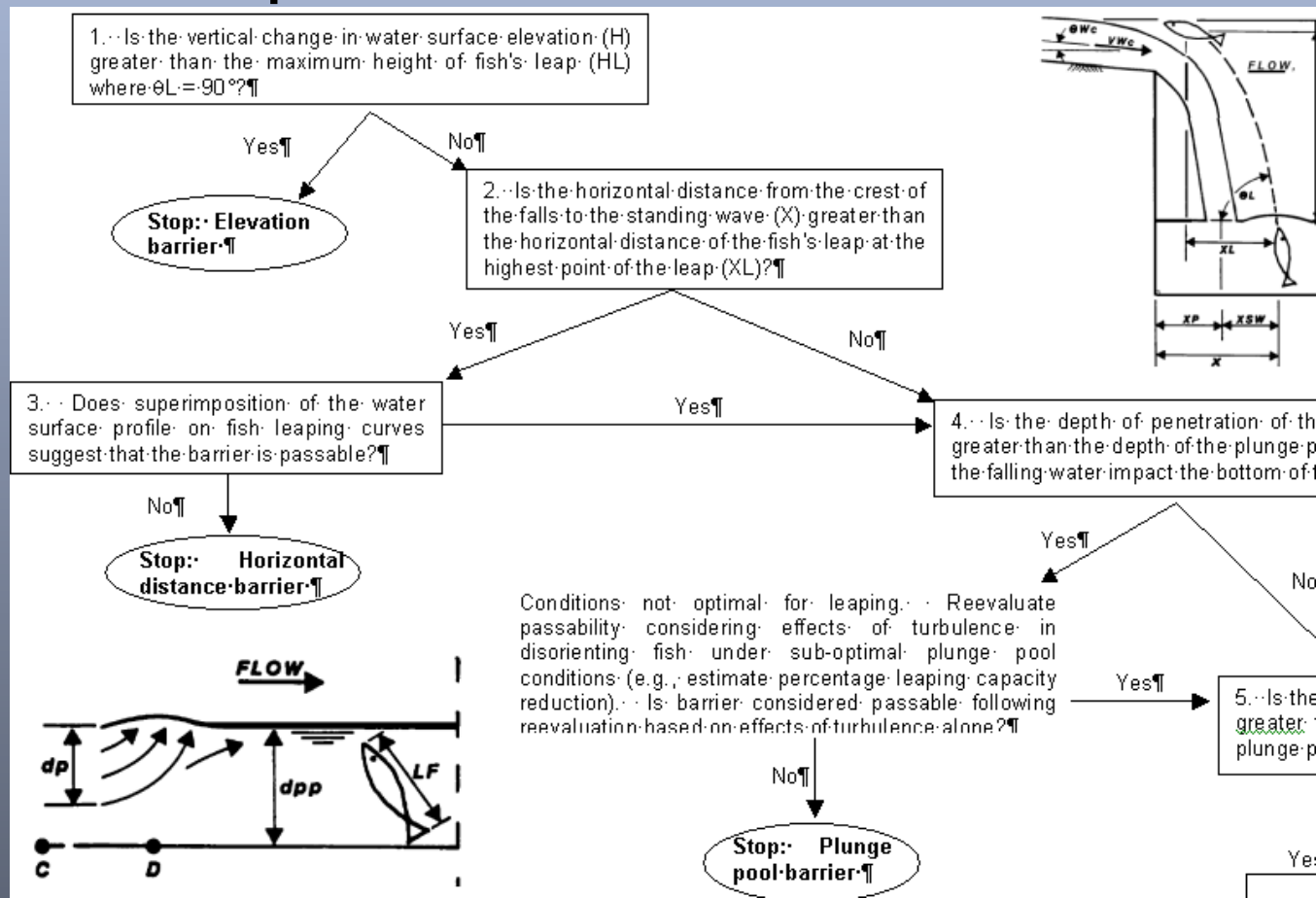
Data Collection

- ◆ **Expert assessment team assembled**
- ◆ **Four major, and ten minor tributaries assessed**
- ◆ **Low flow and high flow observations**

Methodology

Data Collection

- 1) Determine potential barrier type
- 2) Follow sequence of measurements to evaluate the barrier



West Branch and Tributaries

- ◆ Salmon Falls
- ◆ Miocene Dam
- ◆ Concow Creek Falls



North Fork and Tributaries

- ◆ Big Bend Dam
- ◆ French Creek
- ◆ Stony Creek
- ◆ Chino Creek
- ◆ Berry Creek
- ◆ Poe Dam



Middle Fork and Tributaries

- ◆ Curtain Falls
 - ◆ Bald Rock Falls
 - ◆ Feather Falls
 - ◆ Fall River Falls
 - ◆ Frey Creek
- Cascades

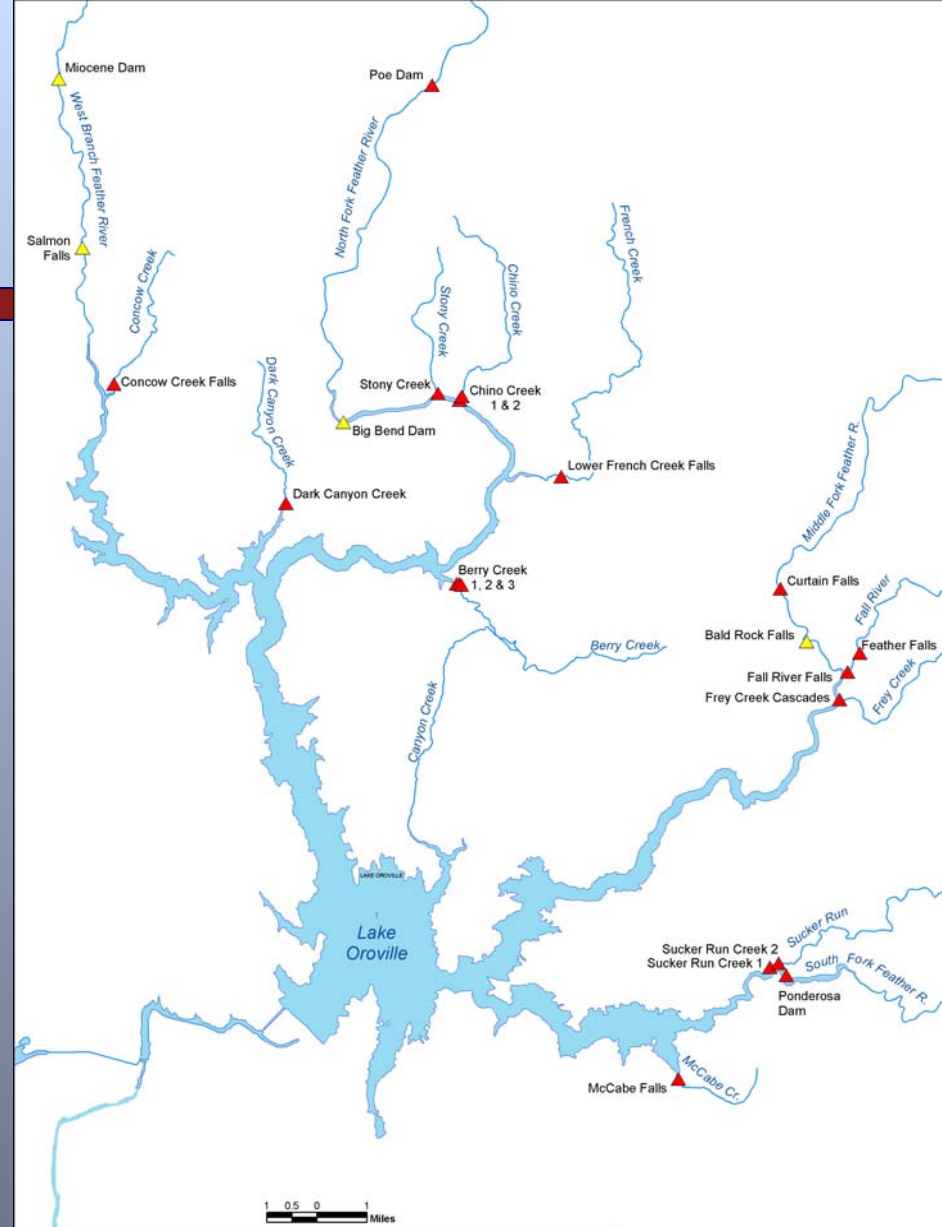


South Fork and Tributaries

- ◆ Ponderosa Dam
- ◆ Sucker Run
Creek 1 – 3
- ◆ McCabe Falls



Interim Report Conclusions



- ▲ Fish Passage Barriers (Always Impassible)
- ▲ Fish Passage Barriers (Possible at some flows or reservoir stage elevations)

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
Oroville Facilities Relicensing
FERC Project No. 2100

FIGURE RS-1
FISH PASSAGE BARRIERS:
LAKE OROVILLE
UPSTREAM TRIBUTARIES



Next Steps for Final Report

- ◆ **Determine complete fish passage barrier for West Branch**
- ◆ **Evaluate sediment plug information from SP-G1**
 - ◆ **Determine sediment plug reservoir inundation frequency and timing**
 - ◆ **Evaluate for fish passage**